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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/505,472	08/20/2004	Stephen D. Gilder	5-41-56(16B)(4006-04202)	1706

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STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.  
1100 NEW YORK AVENUE, N.W.  
WASHINGTON, DC 20005

EXAMINER
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COONEY, JOHN M

ART UNIT	PAPER NUMBER
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1796

MAIL DATE	DELIVERY MODE
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11/01/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/505,472

Applicant(s)

GILDER ET AL.

Examiner

John Cooney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3-28,30-35 and 37-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-28,30-35 and 37-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10-2-07 has been entered.

***Claim Rejection - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-28, 30-35, and 37-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Grace et al.(4,892,893).

Grace et al. disclose methods for preparing polyurethane foams by mixing and reacting polyol, isocyanate, water, melamine, and other fire retardants, as claimed, under mixing conditions reading on those claimed (see column 2 line 22 - column 7 line 48 and the examples, as well as, the entire document). Densities as claimed are disclosed, and, owing to the physical material contents, the claimed flame test, IFD and air flow values are seen to be inherent to the teachings of Grace et al.

It is held, in the instant case, that the teachings of Grace et al. provide for contents of melamine and particle size values with specificity as to providing for the respective values and their effects on resultant compositions such that anticipation of these elements of the claims by Grace et al. is evident. Additionally, though smaller particle sizes are not preferred in order to avoid deleterious effects on product quality, it is seen that Grace et al. provides for these smaller sizes to a degree that anticipation is evident. Further, all disclosures of the prior art, including unpreferred or auxiliary embodiments, must be considered in determining obviousness. In re Mills, 176 USPQ; In re Lamberti, 192 USPQ 278; In re Boe, 148 USPQ 507.

As to the filters, it is held that Grace et al. provides for the employment of filters to the degree that anticipation is evident. Additionally, though filters are not preferred in order to avoid deleterious effects on processing quality and efficiency, it is seen that Grace et al. provides for employment of filters to a degree that anticipation is evident. Further, all disclosures of the prior art, including unpreferred or auxiliary embodiments, must be considered in determining obviousness. In re Mills, 176 USPQ; In re Lamberti, 192 USPQ 278; In re Boe, 148 USPQ 507.

Additionally, as to the statements from the preamble of applicants' process claims pertaining to "a carbon dioxide frothing process", it is held that these statements from the preamble do not serve to distinguish the processes as claimed from the processes of Grace et al. which foam the products from their processes via carbon dioxide. The process limitations of applicants' claims do not distinguish over the processes of Grace et al.

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Applicants' arguments as to the above rejection have been considered.

However, rejection is maintained. Applicants have not demonstrated differences in their products based on features of their composition. The cited prior art offers polyurethane foams having exceptional fire retardant effects, and it is maintained that sufficient disclosure in the cited prior art of compositional make-ups meeting those of applicants' claims is evident that examiner's position of inherency is properly maintained. Examiner further maintains particle size permutations of applicants' claims are properly maintained to be disclosed by the prior art which extensively addresses particle size values and effects in their disclosures. As to applicants' process limitations, it is held that applicants' do not establish differences from the prior art supported by defined process limitations in their claims which distinguish the claims from the combinations of the cited prior art.

Further, applicants' indication of examples which fail the burn test of the claims does not negate what is fully taught by the cited prior art, including example 22 and Grace et al.'s replete disclosure of fire retardant materials disclosed for the purpose of providing fire retardant behavior in formed products.

In addition to the above holding, applicants have not established the connection/relationship between the "vertical portion of the California 117 Burn Test" and the "open flame resistance portion of the California 117 Burn Test" such that it is seen that the two refer to the same portion of the test. Accordingly, it is not seen to be evident that the test failures of the reference are the test failures avoided by applicants' claims.

The following is set forth in the alternative to the above rejection under 35 USC 102:

***Claim Rejection - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-28, 30-35, and 37-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grace et al.(4,892,893), alone, or in view of Eiben et al.(5,789,457) and Webster et al.(3,862,921).

Grace et al. disclose methods for preparing polyurethane foams by mixing and reacting polyol, isocyanate, water, melamine, and other fire retardants under mixing conditions meeting those claimed (see column 2 line 22 - column 7 line 48 and the examples, as well as, the entire document).

Grace et al. differs from applicants' claims in that it does not particularly require filtering of its mixtures before or after passing through the mixing head. However, Eiben et al.(see abstract and claims) and Webster et al.(see column 6 lines 8-15) disclose employment of filter screens in polyurethane polymer processing operations for their

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filtration and other material enhancing effects. Accordingly, it would have been obvious for one having ordinary skill in the art to have employed filters as disclosed by Eiben et al. and Webster et al. before and after ejection of the materials from the mixing head in the preparations of Grace et al. for the purpose of imparting their known filtration and materials enhancing effects in order to arrive at the products and processes of applicants' claims with the expectation of success in the absence of a showing of new or unexpected results. Further, it is held that cleaning/scraping of filters, as set forth by applicants' new claim 43, for the purpose of maintaining their filtering efficiency and effectiveness, and to prevent blocking is a processing feature which would have been well within the skill of the ordinary practitioner in the art. Additionally, as for Grace et al.'s removal of polyol filters in its processes (column 7 lines 24-32), it is held that all disclosures of the prior art, including unpreferred or auxiliary embodiments, must be considered in determining obviousness. In re Mills, 176 USPQ; In re Lamberti, 192 USPQ 278; In re Boe, 148 USPQ 507.

Grace et al. differs from applicants' claims in that it does not particularly require particle sizes as claimed by applicants. However, Grace et al. does provide particle sizes in overlap with applicants' claims (see column 6 line 50 – column 7 line 23) for purposes of providing suitable flame retarded products. Accordingly, it would have been obvious for one having ordinary skill in the art to have employed particle sizes provided for by the full teachings of Grace et al. in the preparations of Grace et al. for the purpose of preparing suitable flame retardant products in order to arrive at the products and processes of applicants' claims with the expectation of success in the

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absence of a showing of new or unexpected results. It has long been held that where the general conditions of the claims are disclosed in the prior art, discovering the optimal or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233; *In re Reese* 129 USPQ 402 . Further, a prima facie case of obviousness has been held to exist where the proportions of a reference are close enough to those of the claims to lead to an expectation of the same properties. *Titanium Metals v Banner* 227 USPQ 773. (see also MPEP 2144.05 I) Similarly, it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272,205 USPQ 215 (CCPA 1980). Further, it is held here to that all disclosures of the prior art, including unpreferred or auxiliary embodiments, must be considered in determining obviousness. *In re Mills*, 176 USPQ; *In re Lamberti*, 192 USPQ 278; *In re Boe*, 148 USPQ 507.

Applicants' arguments have been considered. However, rejection is maintained for the reasons set forth in the rejection above. Additionally, the arguments made in reference to the rejection over Grace et al. under 35 USC 102 apply to applicants' arguments made on reply as well.

Further, examiner maintains that the position of obviousness over Grace et al. alone or in combination with the teachings provided is properly set forth. The secondary teaching address the deficiencies indicated in the rejection above, and applicants' have not established the combinations to be improper, nor has a showing of new or unexpected results that is commensurate in scope with the scope of the claims sufficient to overcome the rejection been made.



***Claim Rejection - 35 USC § 102***

Claims 1, 3-28, 41, and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Ricciardi et al.(4,757,093).

Ricciardi et al. disclose methods for preparing polyurethane foams by mixing and reacting polyol, isocyanate, water, melamine, and other fire retardants, as claimed, under mixing conditions reading on those claimed (see column 3 line 9 - column 5 line 65 and the examples, as well as, the entire document). Densities as claimed are disclosed, and, owing to the physical material contents, the claimed flame test, IFD, and air flow values are seen to be inherent to the teachings of Ricciardi et al.

It is held, in the instant case, that the teachings of Ricciardi et al. provide for contents of melamine and particle size values with specificity as to providing for the respective values and their effects on resultant compositions such that anticipation of these elements of the claims by Ricciardi et al. is evident. Ricciardi et al. provides selections of particle sizes sufficient in their make-up to meet the particle sizes defined by applicants' claims.

Applicants' arguments as to the above rejection have been considered. However, rejection is maintained. Applicants have not demonstrated differences in their products based on features of their composition. The cited prior art offers polyurethane foams having exceptional fire retardant effects, and it is maintained that sufficient disclosure in the cited prior art of compositional make-ups meeting those of applicants' claims is evident that examiner's position of inherency is properly maintained. Examiner

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further maintains particle size permutations of applicants' claims are properly maintained to be disclosed by the prior art which extensively addresses particle size values and effects in their disclosures.

Further, based on the make-ups of the preparations of Ricciardi et al. and its concern with fire retardant article formation, it is held and maintained that claims are properly held to be anticipated, and indicated properties and behaviors not particularly recited are held to be properly maintained to be inherent to the teachings of Ricciardi et al. The Office is not in a position to run specific test on materials from the prior art, and examiner maintains burden to be upon applicant to demonstrate difference in their products over Ricciardi et al. based on the fire test specified in their claims.

The following is set forth in the alternative to and/or in addition to the above rejection under 35 USC 102:

***Claim Rejection - 35 USC § 103***

Claims 1, 3-28, 30-35, and 37-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ricciardi et al.(4,757,093), alone, or in view of Eiben et al.(5,789,457) and Webster et al.(3,862,921).

Ricciardi et al. disclose methods for preparing polyurethane foams by mixing and reacting polyol, isocyanate, water, melamine, and other fire retardants under mixing

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conditions reading on those claimed (see column 3 line 9 - column 5 line 65 and the examples, as well as, the entire document),

Ricciardi et al. differs from applicants' claims in that it does not particularly require particle sizes as claimed by applicants. However, Ricciardi et al. does provide particle sizes in overlap with applicants' claims (see column 5 line 7-16) for purposes of providing suitable flame retarded products. Accordingly, it would have been obvious for one having ordinary skill in the art to have employed particle sizes provided for by the full teachings of Ricciardi et al. in the preparations of Ricciardi et al. for the purpose of preparing suitable flame retardant products in order to arrive at the products and processes of applicants' claims with the expectation of success in the absence of a showing of new or unexpected results. It has long been held that where the general conditions of the claims are disclosed in the prior art, discovering the optimal or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233; *In re Reese* 129 USPQ 402 . Further, a prima facie case of obviousness has been held to exist where the proportions of a reference are close enough to those of the claims to lead to an expectation of the same properties. *Titanium Metals v Banner* 227 USPQ 773. **(see also MPEP 2144.05 I)** Similarly, it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272,205 USPQ 215 (CCPA 1980). Further, it is held here to that all disclosures of the prior art, including unpreferred or auxiliary embodiments, must be considered in determining obviousness. *In re Mills*, 176 USPQ; *In re Lamberti*, 192 USPQ 278; *In re Boe*, 148 USPQ 507.

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Ricciardi et al. differs from applicants' claims in that it does not particularly require filtering of its mixtures before or after passing through the mixing head. However, Eiben et al. (see abstract and claims) and Webster et al. (see column 6 lines 8-15) disclose employment of filter screens in polyurethane polymer processing operations for their filtration and other material enhancing effects. Accordingly, it would have been obvious for one having ordinary skill in the art to have employed filters as disclosed by Eiben et al. and Webster et al. before and after ejection of the materials from the mixing head in the preparations of Ricciardi et al. for the purpose of imparting their known filtration and materials enhancing effects in order to arrive at the products and processes of applicants' claims with the expectation of success in the absence of a showing of new or unexpected results. Further, it is held that cleaning/scraping of filters, as set forth by applicants' new claim 43, for the purpose of maintaining their filtering efficiency and effectiveness, and to prevent blocking is a processing feature which would have been well within the skill of the ordinary practitioner in the art.

Applicants' arguments have been considered. However, rejection is maintained for the reasons set forth in the rejection above. Additionally, the arguments made in reference to the rejection over Ricciardi et al. under 35 USC 102 apply to applicants' arguments made on reply as well.

Examiner maintains that the position of obviousness over Ricciardi et al. alone or in combination with the teachings provided is properly set forth. The secondary teaching address the deficiencies indicated in the rejection above, and applicants' have

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not established the combinations to be improper, nor has a showing of new or unexpected results that is commensurate in scope with the scope of the claims sufficient to overcome the rejection been made.

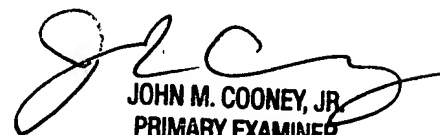
As to the statements from the preamble of applicants' process claims pertaining to "a carbon dioxide frothing process", it is held that these statements from the preamble do not serve to distinguish the processes as claimed from the processes of Ricciardi et al. which foam the products from their processes via carbon dioxide.

Grace et al. ('459) is retained as being art of interest for its extensive disclosure of pertinent flame retardant compositions in the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Cooney whose telephone number is 571-272-1070. The examiner can normally be reached on M-F from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck, can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
JOHN M. COONEY, JR.  
PRIMARY EXAMINER  
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